IN THE UNITED STATES DISTRICT COURT
FOR THE EASTERN DISTRICT OF VIRGINIA

Alexandria Division

VIRGINIA INNOVATION SCIENCES, INC., *Plaintiff,* v. AMAZON.COM, INC., *Defendant.*	Civil No. 1:16-cv-00861 Hon. Liam O'Grady Hon. Michael S. Nachmanoff

MEMORANDUM OPINION AND ORDER

This matter is before the Court for the construction of eleven disputed patent claim terms in three patents. The patents are: U.S. Patent No. 9,369,844, entitled "System and Method for Providing Locally Applicable Internet Content with Secure Action Requests and Item Condition Alerts" (the "'844 patent"), U.S. Patent No. 8,135,398, entitled "Method and Apparatus for Multimedia Communications with Different User Terminals" (the "'398 patent"), and U.S. Patent No. RE 46,140, entitled "Method and System for Conducting business in a transnational e-Commerce Network" (the "'140 patent"), which was issued after the initiation of this lawsuit.[1] Virginia Innovation Sciences ("VIS") is the owner of all rights and title to, and interest in, these three patents. VIS has sued Amazon.com, Inc. ("Amazon") for infringement of each of these patents. The parties fully briefed the matter and the Court held a *Markman* hearing on July 19, 2017. Once it has set forth the procedural history of this case and the legal standard for claim construction, this Memorandum Opinion proceeds through the parties' arguments. After considering these arguments, the Court provides a final construction for each disputed term.

[1] Pursuant to this Court's November 2, 2016 Order, Plaintiff was granted leave to amend its complaint to include infringement claims under the '140 Patent. Dkt. No. 48; *see* Am. Compl., Dkt. No. 44-1.

I. PROCEDURAL HISTORY

VIS initially brought suit in this Court on July 5, 2016, alleging patent infringement of ten separate patents. In response, Amazon filed a motion to dismiss the infringement claims relating to eight of these patents. They were: U.S. Patent No. 7,899,492 (the "'492 patent); U.S. Patent No. 8,050,711 (the "'711 patent"); U.S. Patent No. 8,903,451 (the "'451 patent"); U.S. Patent No. 8,948,814 (the "'814 patent"); U.S. Patent No. 9,118,794 (the "'794 patent"); U.S. Patent No. 8,712,471; U.S. Patent No. 9,286,853 (the "'853 patent"); and U.S. Patent No. 9,355,611 (the "'611 patent"). The Court granted this motion in full on January 5, 2017, finding that the entire family of patents was directed to patent-ineligible subject matter under 35 U.S.C. § 101. (Dkt. No. 58). The Court entered final judgment on that order, and VIS appealed the Court's ruling to the Federal Circuit.[2]

This Court's § 101 ruling rested on the shoulders of previous litigation surrounding the '492 patent. A few years before initiating this case, VIS filed a similar infringement suit against Samsung Electronics Company. *See Virginia Innovation Sciences, Inc. v. Samsung Elecs. Co.*, 976 F. Supp. 2d 794 (E.D. Va. 2013). In that case, VIS asserted infringement of six patents: the '492 patent, the '711 patent, the '268 patent, the '381 patent, the '733 patent, and the '398 patent. In the course of that litigation, the court construed three terms that are relevant for the purposes of the '398 patent. First, it found that "multimedia content item . . . destined for a destination device" required no further construction. *Id.* at 823. Second, it construed the term "establishing a predetermined channel" as "specifying a communication pathway." *Id.* at 828. Third, it construed the term "in conjunction with a navigational command to the destination device for the

[2] In a parallel case, VIS alleged infringement of the same family of patents against HTC Corp. *Virginia Innovation Sciences v. HTC Corp.*, No. 16-cv-1350 (E.D. Va.). That case was also resolved with the invalidation of the '492 patent family, and the two appeals were consolidated before the Federal Circuit in Case No. 17-1482. The appeal for these consolidated cases is currently pending.

predetermined channel" as "in conjunction with a command to the destination device to select the communication pathway." *Id.* at 829.

The *Samsung* court also construed six claims related to the '492 patent family and entered summary judgment in favor of Samsung on the basis of those constructions. Addressing only the claims of the '492 patent family, the Federal Circuit reversed. *Virginia Innovation Sciences, Inc. v. Samsung Elecs. Co.*, 614 Fed. App'x 503, 506 n.1 (Fed. Cir. 2015) (noting that the '733 patent and the '398 patent were not at issue in that appeal). Specifically, the Federal Circuit remanded the case to the district court to develop the extrinsic record surrounding the terms "display format" and "converted video signal." *Id.* at 513. Notably, in reversing, the court stated:

> [A]lthough the intrinsic evidence strongly suggests that the claimed "display format" must be a video signal that is "ready for use" by a conventional external monitor, the intrinsic evidence before us does not provide a complete understanding of the term. Thus, while review of the intrinsic evidence is commonly dispositive in understanding the ordinary meaning of a claim, such is not the case in this particular instance.

Id. at 510. In other words, the Federal Circuit found that the extrinsic evidence was not only helpful for claim construction purposes; it was *necessary*. *Id.* According to the Federal Circuit, the patent claims simply could not be construed by their own terms.

II. LEGAL STANDARD

A typical infringement suit has two steps: construing the patent and then determining whether infringement occurred. *Markman v. Westview Instruments, Inc.*, 517 U.S. 370, 384 (1996). "The first is a question of law, to be determined by the court, construing the letters-patent, and the description of the invention and specification of a claim annexed to them. The second is a question of fact, to be submitted to a jury." *Id.* (quoting *Winans v. Denmead*, 56 U.S. 330, 338 (1853)). Therefore, in the context of patent law, "[t]he claim define[s] the scope of a patent grant" and under *Markman*, the court, rather than the jury, is to determine the meaning of

the disputed terms in a given claim. *Id.* at 373. Once the meaning of the terms has been established, the factual question of infringement is then submitted to a jury. *Id.*

The Federal Circuit's *en banc* decision in *Phillips v. AWH Corp.* remains the guiding light for district courts engaging in the exercise of claim construction. 415 F.3d 1303, 1309 (Fed. Cir. 2005). To begin, *Phillips* reiterates that the patent's claims define the patentee's right to exclude, and "the words of a claim 'are generally given their ordinary and customary meaning.'" *Id.* at 1313 (quoting *Vitronics Corp. v. Conceptronic, Inc.*, 90 F.3d 1576, 1582 (Fed. Cir. 1996)). In some cases, the ordinary meaning may be readily apparent to lay judges, in which case the Court may construe terms by applying the basic meaning of commonly-understood words. *Id.* at 1314.

In general, however, the "ordinary and customary meaning" is "the meaning that the term would have to a person of ordinary skill in the art in question at the time of the invention." *Id.* A person of ordinary skill in the art is presumed to read the claim term in the context of the entire patent. *Id.* Thus, the patent specification and the patent prosecution history both provide a useful tool for construing the precise meaning of patent terms. *Id.* (citing *Multiform Desiccants, Inc. v. Medzam, Ltd.*, 133 F.3d 1473, 1477 (Fed. Cir. 1988)). Accordingly, there are three primary sources that should first be consulted in a claim construction inquiry: (1) the claims; (2) the specification; and (3) the prosecution history. *See id.* In limited circumstances, courts may also look to external sources such as dictionaries and treatises to guide their inquiry. *Id.*

Because the claims ultimately delineate the exclusionary scope of the patent, they provide the starting point for any claim construction. When examining claim language, courts presume that "claim terms are normally used consistently throughout the patent. *Id.* at 1314. Accordingly, the "usage of a term in one claim can often illuminate the meaning of the same

term in other claims." *Id.* (citing *Rexnord Corp. v. Laitram Corp.*, 274 F.3d 1336, 1342 (Fed. Cir. 2001)). This principle leads to the idea of "claim differentiation," which provides that courts should not read claim terms in a way that would make them redundant with features that are recited in separate claims. *Apple, Inc. v. Ameranth, Inc.*, 842 F.3d 1229, 1238 (Fed. Cir. 2016). By the same token, the Federal Circuit "has declined to apply the doctrine of claim differentiation where the 'claims are not otherwise identical in scope." *Id.* (quoting *Indacon, Inc. v. Facebook, Inc.*, 824 F.3d 1352, 1358 (Fed. Cir. 2016)).

Although claim language is the analytical starting point, it "must be read in view of the specification, of which they are a part." *Phillips*, 415 F.3d at 1315 (internal citations and quotation marks omitted). "The specification is always highly relevant to the claim construction analysis. Usually, it is dispositive; it is the single best guide to the meaning of a disputed term." *Vitronics*, 90 F. 3d at 979. Therefore, "a claim interpretation that excludes a preferred embodiment from the scope of the claim is rarely, if ever, correct." *On-Line Tech. v. Bodenseewerk Perkin-Elmer*, 386 F.3d 1133, 1138 (Fed. Cir. 2004) (internal citations and quotation marks omitted). On the other hand, courts should not stretch the specification too far, and they should be wary of not reading the specification onto the claim as a limitation. *See Phillips*, 415 F.3d at 1315; *see also Hill-Rom Servs., Inc. v. Stryker Corp.*, 755 F.3d 1367, 1371 (Fed. Cir. 2014) ("While we read claims in view of the specification, of which they are a part, we do not read limitations from the embodiments in the specification into the claims.").

In addition to the claims and the specification, the Court must consider the prosecution history, which consists of the complete record of the proceedings before the United States Patent and Trademark Office ("USPTO"). *Phillips*, 415 F.3d at 1317. Because the prosecution history reflects ongoing negotiation between the USPTO and the patent applicant, however, its precise

import is not always clear. *See Trading Tech. Int'l, Inc. v. eSpeed, Inc.*, 595 F.3d 1340, 1352 (Fed. Cir. 2010). Nonetheless, when a patent applicant has clearly and unambiguously disclaimed a given construction of a term in the patent prosecution process, she may not turn around and argue for that construction at a later stage. *Omega Eng'g, Inc, v. Raytek Corp.*, 334 F.3d 1314, 1326 (Fed. Cir. 2003). Whether by reference to the specification or the prosecution history, "the standard for disavowal is exacting, requiring clear and unequivocal evidence that the claimed invention includes or does not include a particular feature." *Poly-Am., L.P. v. API Indus., Inc.*, 839 F.3d 1131, 1136 (Fed. Cir. 2016). As the Federal Circuit has recently held, the doctrine of claim disavowal extends to statements made during the *inter partes* review of a patent. *Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1353, 1361 (Fed. Cir. 2017).

Finally, in addition to this intrinsic evidence, *Phillips* explains that extrinsic evidence may occasionally be useful when the view of someone skilled in the art requires further elaboration. *Phillips*, 415 F.3d at 1318. At the same time, the Federal Circuit stated that extrinsic evidence is plainly secondary to the three sources of intrinsic evidence discussed above. Because the parties do not argue for the consideration of any extrinsic evidence here, the permissible uses of this evidence is not discussed further.

III. CLAIM CONSTRUCTION

Amazon asks this court to construe eleven terms.[3] VIS counters by arguing that only two of these terms need clarification and that the rest can be interpreted according to their plain and ordinary meaning. Each of these eleven disputed terms will be addressed in turn, with the following discussion divided into three separate sections; one for each patent.

[3] Amazon has stated that it will seek to invalidate all of the asserted claims in a forthcoming motion for summary judgment on the grounds that they are either indefinite under 35 U.S.C. § 112 or directed to patent-ineligible subject matter under 35 U.S.C. § 101. *See* Amazon Op. Br. at 5 n.4 (§ 101 for the '398 patent); *id.* at 18 n.6 (§ 112 for the '844 patent); *id.* at 28 n.8 (§ 112 for the '140 patent).

A. The '398 Patent

The '398 patent is a continuation of the '733 patent, and the specifications of the two patents are materially identical. The '398 patent also claims priority to a chain of continuation-in-part patent applications, one of which was the '492 patent which this Court previously found invalid. The '492 patent shares parts of its specification with the '398 patent, but they differ in material respects. Of the '398 patent's claims, VIS asserts infringement of independent claims 1 and 14, claims that depend on claims 1 and 14, and claims that depend on independent claim 15, which has since been cancelled. Each of the disputed terms appear in both claim 1 and claim 14.

In full, claim 1 reads as follows:

> 1. A method for conversion and sending of content to devices, the method comprising:
>
> receiving a **multimedia content item** originated from a source located outside a home location and **destined for a destination device located within the home location**, wherein the multimedia content item is **received through a wireless communication network and from a wireless terminal device;**
>
> converting the multimedia content item for reproduction according to a determined signal format of the destination device; and
>
> sending the converted multimedia content item to the destination device, wherein the destination device is a television, and wherein the sending comprises:
>
> establishing a **predetermined channel** operatively in communication with the destination device
>
> and transporting the multimedia content item to the destination device via said predetermined channel,
>
> for the destination device to display the multimedia content item in conjunction with a **navigational command to the destination device for the predetermined channel.**

'398 patent (emphasis on disputed terms).

Stated in plain English, claim 1 describes a method that can be broken down into six component parts: (1) multimedia content (*e.g.*, a YouTube video) is received by a "wireless terminal device (*e.g.*, a cell phone) through a wireless communication network (*e.g.*, Verizon); (2) the multimedia content is converted to a format that is compatible with the "destination device" (*e.g.*, a television); (3) the multimedia content is sent to a television; (4) it is sent by establishing a "predetermined channel" of communication with the television; (5) after establishing the channel, the multimedia content is transported through that channel; so that (6) it may be displayed on the television in conjunction "with a navigational command to the destination device for the predetermined channel."

Independent claim 14 describes computer readable media containing code to perform that method:

> 14. A non-transitory computer readable medium storing program code for converting and sending of content to devices, program code being executable by a processor to perform operations comprising:
>
> receiving a multimedia content item originated from a source located outside a designated location and **destined for a destination device located within the designated location**, wherein the multimedia content item is **received through a wireless communication network and from a wireless terminal device**;
>
> converting the **multimedia content item** for reproduction according to a determined signal format of the destination device; and
>
> sending the converted multimedia content item to the destination device, wherein the destination device is a television, and wherein the sending comprises: establishing a **predetermined channel** operatively in communication with the destination device,
>
> and transporting the multimedia content item to the destination device via said predetermined channel,
>
> for the destination device to display the multimedia content item in conjunction with a **navigational, command to the destination device for the predetermined channel.**

Id. (emphasis on disputed terms). Claim 15 (now cancelled) is directed to a wireless terminal apparatus for use in performing the method. Having described the patent as a whole, the focus now turns to the disputed terms.

1. *"Destined for a destination device located within the home location"*

- Amazon's proposed construction: Directed to a television within the home/designated location.
- VIS's proposed construction: No construction required. The plain and ordinary meaning is sufficiently clear and understandable.

The focus in this dispute is directed to two terms: (1) destined and (2) destination device. The question about "destination device" is simple: can the destination device be anything besides a television? Amazon contends that it must be a television, while VIS posits that it can be any device that ultimately displays the multimedia content. As for the term "destined," the issue is more complicated, and indeed borders on the philosophical. VIS argues that the destination device can be identified after the fact as any device on which the multimedia content is later viewed. Amazon counters that the term "destined" means that the final display device is preordained *before* it is received by the mobile terminal device. The "destination device" will be addressed first, followed by the word "destined."

At oral argument, the parties agreed that all of the asserted claims contain the phrase "wherein the destination device is a television." Jul. 19, 2017 Hearing Tr. at 10:1-12. Thus, the debate over the meaning of the "destination device" is largely academic because, in order to infringe, it is undisputed that Amazon's product must include a television. Nonetheless, the parties have asked the Court to construe this claim.

In doing so, the Court concludes that the claims suggest, but do not require, that the "destination device" be a television. As a principal matter, each of the independent claims 1, 14, and 15 specifically recite that the converted multimedia content is sent to a destination device, "wherein the destination device is a television." '398 patent at 29:20-23. The specifications largely confirm this reading. In a very clear example, the "Summary of Invention" explains that the video content "has a display destination of the television, configuring the video content for display on the television, and directing the television to display the video content . . ." *Id.* at 3:25-29. As another example, Figure 17 plainly states at three separate points that the video content will be displayed on a television. *Id.* Fig. 17.

On the other hand, dependent claims 11, 12, and 13 do not contain the phrase: "wherein the destination device is a television." Indeed, the "wherein" clause itself suggests that the destination device does not *have to* be a television, only that it is a television in the embodiment described by those claims. Thus, these claims appear to claim a broader construction of the term "destination device" than strictly a television. Moreover, the common sense understanding of the word "device" is broader than just a television. This conclusion is supported by the specification, which explicitly states: "The destination device may comprise different devices having different formats and receiving signals through different communications protocols." *Id.* 27:1-4. Facing this language, it is difficult to dispute the notion that the term "device" includes more than just a television.

Thus, although the intrinsic evidence supports Amazon's construction, it does not *dictate* it. In other words, there is nothing in the claims or the specification that actually limits the embodiments of the display device. The claims and the specifications appear to contemplate display on a television, but there is nothing that confines the device to a television. Indeed, the

plain understanding of the word "device" could mean any one of a number of technological gadgets. Accordingly, Amazon's proposed insertion of the word "television" into the claim is rejected.

The next question implicates the metaphysical debate over the temporal implications of being "destined" for something: in this case, destined for a "destination device within the home/designated location." Upon a fulsome review of the intrinsic evidence, it is clear that the term "destined" in the context of the '398 patent requires some temporal significance; namely, that the destination device is determined *before* the media content is received by the mobile terminal device.

This construction is evident in the language of claim 1, which describes "a method for conversion and sending of content to devices." Because it is a method, the claim necessarily requires multiple steps that depend on one another. The first three steps are: (1) receiving the multimedia content; (2) converting the content; and (3) sending it. In order to fall within the scope of the claims, therefore, the multimedia content must be converted and sent after it is received. In other words, the multimedia content cannot have the wireless terminal device as its final destination in order to fall within the scope of the claims.

This understanding is supported by the specification, which on various occasions mentions that the initial multimedia item is bound for the destination device. "For example, if the data package contains the identifier DI, it is determined that the communication is intended for the main television in the household." *Id.* 21:41-43. In this example, the specific data package contains an identifier (DI) that describes the ultimate destination of the data. If the identifier were different, presumably the destination would also change. This language is confirmed in other places. In a passage cited by VIS:

> The MC System variously processes data depending upon corresponding devices and purposes for the data. For example, the data received from cellular networks are selected and then converted to be displayed on home or office appliances with different types of display screens. Similarly, some content can be displayed more properly by mobile phone displays.

Id. 22:37-50. Again, this passage contemplates that the nature of the "data received from cellular networks" may be different depending on whether its destination is ultimately a mobile phone or a television. In that respect, whether the data is "destined" for the "destination device" must be determined prior to receiving the data.

Finally, Figure 17 (reproduced below) makes this predestination explicit. The figure (1704) notes that, after receiving the "video content through cellular communications channel," the next step is to "*recognize* video content has television as display destination." *Id.* fig. 17 (emphasis added). It is impossible to recognize something that does not yet exist. Therefore, the term "destined" must have some temporal significance in this context.

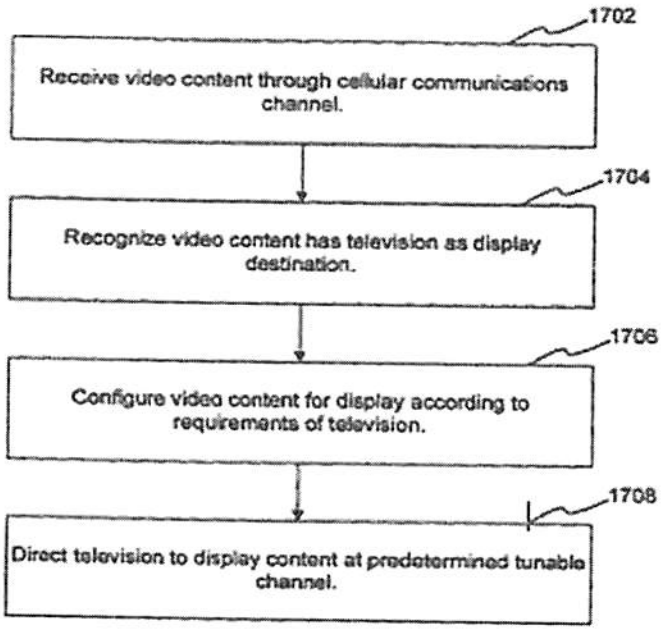

FIG. 17

VIS's construction would ignore this limitation by allowing the multimedia's destiny to be determined after receipt by the mobile device. In this sense, VIS argues that the destination is not "preordained," but instead can be decided by the user. In support of its argument, VIS relies on excerpts from the specifications as well as the construction of the claims in *Samsung*. This reliance is unfounded.

With regard to this term, VIS's citations to the patent simply do not stand for the strong position that it puts forward. For example, it cites a passage which reads:

> Corresponding format and addressing information is then provided to the MC/CHS. For example, the MC/CHS may be instructed that the IP address of the user's PC is the destination address for the requested cellular phone call, and the cable port address of the user's television may be the destination address for the requested news.

Id. 28:22-28. Like the specifications cited above, this does not speak to the specific timing or the method of communicating the "destination address." Instead, it teaches that the ultimate destination may be different depending on the type of information that is received and requested. This is not the same as saying that the user receives the content and then can unilaterally direct it to a different destination, as VIS suggests.

For similar reasons, *Samsung* does not directly apply here. First and foremost, the *Samsung* construction of the '398 patent was never part of a final judgment and is not binding on this court. Second, the court in *Samsung* construed a slightly different formation of the term: "multimedia content item . . . destined for a destination device." *Samsung*, 976 F. Supp. 2d at 819 (ellipses in original). Third, and most importantly, *Samsung* failed to engage with the temporal distinction identified above.

In finding that the term did not require any construction, the *Samsung* court first noted that all independent claims "require that *some* information identifying a specific destination be

readily discernible in the conversion process." *Id.* at 820 (emphasis in original). It then explained that the dependent claims teach that the destination device can be identified by "(1) a data package received in connection with the multimedia content, (2) the received request for such content, or, (3) a predetermined processing category." *Id.* at 820–21. Because these limitations are not present in the independent claims, the court reasoned that the "independent claims do not contemplate a specific source of identification." *Id.* at 821. Accordingly, the court found that the term did not need to be construed beyond its ordinary meaning.

Herein lies the problem with *Samsung*, and with VIS's argument. Although the '398 patent does not contemplate a "specific source of identification," it does contemplate a temporal dimension; the media content must be "destined" for the destination display *before* it is received and then processed. Though there may be different ways of achieving this result, the claims and the specifications dictate that the destination be determined prior to conversion by the wireless terminal device.

In sum, the Court concludes that the "destiny" of "multimedia content items" is defined by external sources. In this case, the claims make clear that the destination device must be established as the destination before the media content is received. If the free will of the cell phone's user can dictate the destiny of the multimedia content item, then it is no longer within the scope of the claims. Accordingly, Amazon's construction is hereby adopted with respect to the word "destined." However, the proposed "television" limitation is rejected.

- Final Construction: "**Directed to a destination device within the home/designated location.**"

2. *Predetermined Channel*

- Amazon's proposed construction: Preselected television channel.

- VIS's proposed construction: Communication pathway.

For this term, Amazon again seeks a narrow construction of the term by confining it to a standard tunable television channel. It relies on specifications and claim prosecution history for this proposition. In response, VIS relies on the claims, the specification, and the *Samsung* opinion for the proposition that "predetermined channel" should be construed as a "communication pathway."

Much of the dispute in this term turns on the characterization of an HDMI connection. Amazon points to various claims and specifications that appear to contemplate an HDMI connection as separate from a communication pathway. For example, dependent claim 24 recites "[t]he method of claim 23, wherein the communication path implements an HDMI connection to the destination device." *Id.* claim 24. According to Amazon, the use of "communication path" rather than "predetermined channel" here is telling because it shows that the two terms are not identical.

For further support, Amazon points to the specification's discussion of traditional television channels to argue that these embodiments dictate a narrow construction of the term. *See id.* 20:5-9 ("Preferably, one or more 'channels' corresponding to the cellular application are provided in the cellular television so that content received in this fashion may be accessed and viewed by a user in a fashion similar to that used for accessing traditional television channels"); *id.* 26:41-45 ("Finally, the television is directed 1708 to display the converted content on a predetermined channel. This predetermined channel may, for example, be a tunable channel that is otherwise unused for other forms of content."). Thus, relying on these portions of the specification, Amazon argues that predetermined channels refers to television channels only, and that communication paths are a different thing altogether.

Finally, Amazon asserts that the prosecution history illustrates that an HDMI input could not be considered a predetermined channel because that construction was expressly disavowed by the patent applicant. After an initial non-final rejection (Amazon Op. Br., Ex. F at 11 (Oct. 5, 2011)), the applicant responded by arguing:

> Pasqualino is relied upon for disclosing an HDMI input, but clearly fails to disclose or suggest "sending the converted multimedia content item to the destination device, wherein the destination device is a television, and wherein the sending comprises . . . establishing a predetermined channel operatively in communication with the destination device . . . and transporting the multimedia content item to the destination device via said predetermined channel . . . for the destination device to display the multimedia content item in conjunction with a navigational command to the destination device for the predetermined channel," as claimed by Applicant, or "wherein the multimedia content item is received through a wireless communication network and from a wireless terminal device," as claimed by Applicant.

Id., Ex. K at 30 (applicant remarks). Amazon uses this exchange to argue that HDMI connections were somehow disavowed in the claim language.

Contrary to Amazon's assertions, neither the claims, nor the specifications, nor the prosecution history provide meaningful support for its construction. Indeed, the *Samsung* court reviewed almost identical arguments from Samsung and rejected them all. In this respect, the *Samsung* court's constructions are detailed, thoughtful, and take up nearly five pages of the Second Edition of the Federal Supplement. *Samsung*, 976 F. Supp. 2d at 823–28. As such, they will only be repeated in brief detail here.

First, with regard to the embodiments in the specifications, *Samsung* found that "the specification discussed tunable channels in only exemplary terms, while describing several types of communication channels in relation to all of the disclosed embodiments of the claimed system." *Samsung*, 976 F. Supp. 2d at 825. Thus, it held that "any discussion of 'predetermined

channels' as tunable or selectable frequencies is exemplary only," and Samsung's narrower construction was therefore inappropriate. *Id.* at 827.

As for the prosecution history, *Samsung* found that it cut the opposite way from Amazon's (and Samsung's) proposed construction. *See Poly-Am.*, 839 F.3d at 1136 (noting the high standard for prosecution disavowals). Namely, *Samsung* found that the Notice of Allowance for the '733 patent explicitly removed references to "tunable channels." *Id.* at 826. "Thus, whatever the examiner's initial recommendations, 'predetermined channels' were clearly contemplated as encompassing more than 'tunable channels' when the Notice of Allowability issued." *Id.* Although Amazon is not explicitly arguing for a construction that includes "tunable channels" here, the implications of its argument are the same.

Moreover, if "predetermined channels" is confined to television channels, it would exclude a number of the embodiments in the specification. One example from the specification clarifies this conclusion:

> Finally, the television is directed [ ] to display the converted content on a predetermined channel. This predetermined channel may, for example, be a tunable channel that is otherwise unused for other forms of content. To view video content in this fashion, the user merely uses a channel button or the like to navigate to the appropriate channel, and then the converted content is shown on the display screen of the television. In the alternative where the set top box is used to provide the noted functionality, the tuning may be provided through a remote that controls the set top box. A given channel on the set top box may correspond to the content received in this fashion. **The output of the set top box provides the converted content through a conventional connection to the television such as an HDMI, component cable, S-video or other connection.**

'398 patent 26:41-55 (emphasis added). This passage makes clear that the predetermined channel can be more than just a television channel. At minimum, it can also be a set-top box, which may or may not have tunable channels. Moreover, when a set-top box is used, the "channel" appears to include "HDMI, component cable, S-video, or other connection[s]." *Id.* In

short, limiting the construction as Amazon suggests would improperly exclude preferred examples in the specification and it is therefore rejected. *See On-Line Techs., Inc.*, 386 F.3d at 1138.

There is one final point to make on this term. The *Samsung* court pointed out that VIS's proposed construction "fail[ed] to give meaning to the term 'predetermined'" and therefore clarified that the given "communication pathway" needed to be "specified." *Samsung* 976 F.Supp. 2d at 828. This same caveat applies here.

- Final construction: **"specified communications path."**

3. *Received through a wireless communication network and from a wireless terminal device*

- Amazon's proposed construction: Received within the home/designated location through a wireless network by wireless terminal device from which it is forwarded.
- VIS's proposed construction: No construction required. The plain and ordinary meaning is sufficiently clear and understandable.

The dispute here is over the two additional limitations suggested by Amazon: (1) that the multimedia content item be received in the home/designated location; and (2) that it be forwarded. VIS's argument on these points is simple: the claims themselves do not contain any such limitation and therefore the Court should not construct them out of whole cloth. Amazon responds by noting that the overall structure of the claims—if not the precise language—dictates the proposed limitations.

Amazon's position is derived from the context surrounding this disputed term in the claims. Claim 1 recites a method that includes:

> receiving a multimedia content item originated from a source located outside a designated location and destined for a destination device located within the designated location, wherein the multimedia content item is **received through a wireless communication network and from a wireless terminal device**;
>
> converting the multimedia content item for reproduction according to a determined signal format of the destination device . . .

'398 patent, claim 1 (disputed term emphasized). Amazon argues that this language creates an inherent ambiguity because the multimedia content item is received from two sources—one inside the home and one outside the home. Amazon Op. Br. at 8. This is not the case.

Put simply, there is no limitation on where the multimedia content item is received in the first instance. When distilled to a basic form, the claimed method is best understood as having three components: (1) the wireless network source (*e.g.*, Verizon); (2) the wireless terminal device (*e.g.*, a cell phone); and (3) the destination device (*e.g.*, a television). In this context, the "receipt" described is done by the *wireless terminal device*—for which there is no location qualification—rather than the *destination device*, which must be in the home. Put differently, claim 1 specifies that the source of the media (the wireless network source) must originate from outside the home. It further specifies that the destination device (television) must be inside the home. However, it says nothing about the location of the intermediary wireless terminal device (the cell phone). Thus, in the absence of any evidence to the contrary, there is no reason to require that the phone be inside the home when it receives the multimedia content item. Moreover, Amazon cannot point to anything in the patent specification that would alter that conclusion.[4] Thus, its interpretation is rejected in favor of the plain meaning of the claim language.

[4] Amazon also cites Figure 9 (which was also in the '492 patent specification) to show that the cell phone is connected to the MTCSM by a wire, which would necessarily mean the phone has to be in the same place as the television. Without more, this figure cannot provide the basis for a disavowal of the plain claim language. *See Poly-Am.*, 839 F.3d at 1136.

As for the addition of "from which it is forwarded," Amazon's proposal has more merit. As noted above, the focus of this patent is to share multimedia communications between devices through a given method. The method necessarily contemplates at least three steps: (1) receiving; (2) converting; and (3) sending (through a predetermined channel). Without all three of these steps, the patent loses its meaning. Therefore, the steps must necessarily be linked.

That said, Amazon's proposed verb participle—forwarded—may have some unique meaning in the art. *See* VIS Op. Br. at 12–13. Indeed, VIS suggests that "sent" may be a more appropriate term than "forwarded." *Id.* at 13. This makes good sense, as it connects the three components of the patent without changing the meaning of the patents or adding any limitation that cannot be found in the context of the claims.

- Final Construction: **"received through a wireless communication network and sent from a wireless terminal device."**

4. *Multimedia content item*

- Amazon's proposed construction: The multimedia content in the format received by the wireless terminal device from the source.
- VIS's proposed construction: No construction required. The plain and ordinary meaning is sufficiently clear and understandable.

The crux of the issue here is the format in which the multimedia content is received. Multimedia content simply means content that has two forms of media—for example music and video. Accordingly, VIS suggests that the term multimedia content item plainly refers to a commonly-understood item, and thus does not require any construction. By contrast, Amazon's argument turns on the importance that the patent (and VIS) places on the conversion of the multimedia content in the patent's claimed method.

Amazon draws the majority of its support from one of VIS's arguments in an *inter partes* review of the '398 patent. *See Aylus Networks, Inc. v. Apple Inc.*, 856 F.3d 1019, 2017 WL 1946961, at *5 (Fed. Cir. 2017) ("Extending the prosecution disclaimer doctrine to IPR proceedings . . . ensure[s] that claims are not argued one way in order to maintain their patentability and in a different way against accused infringers."). During the *inter partes* review process, VIS argued that:

> As described in the specification (e.g., '398 patent. 15:52-59) and as required by the challenged claims, a processor executing program code converts the multimedia content item for reproduction according to a determined signal format of the destination device into a converted multimedia content item. The conversion starts with input – a multimedia content item, and results in a "converted multimedia content item." The converted multimedia content item cannot be the same multimedia content item that was received from a source. Otherwise it would not be a "**converted** multimedia content item."

Amazon Op. Br., Ex. E at 14 (patent owner preliminary response) (emphasis in original). Thus, VIS itself distinguishes between received multimedia content items, on the one hand, and converted multimedia content items, on the other. For this reason alone, VIS should not be permitted to argue now that there is no limitation on the term "multimedia content item."

Moreover, Amazon's construction makes perfect sense. As *Phillips* makes clear, where claim terms are ambiguous, the construction of the individual claim terms should reflect the context of the patent as a whole. *See Phillips*, 415 F.3d at 1314. Here, the '398 patent claims a series of steps, all of which are important to the patent's focus. In describing these steps, the distinction between converted and unconverted multimedia content is both critical and logical. The format of the multimedia content when it is received *must* be different from when it is sent; otherwise the content would never be converted. This is critical because conversion is one of only three general steps described in the claimed method. Indeed, without the conversion step,

the inventive concept in the patent becomes meaningless. *See* Jan. 5, 2017 Mem. Op. at 22–32, Dkt. No. 57.

Thus, in construing the term multimedia content item, it is appropriate to add the limitation that the multimedia content be "in the format received by the wireless terminal device from the source" because the context of the term makes clear that language is in fact what the patent claims.

- Final construction: **"The multimedia content in the format received by the wireless terminal device from the source."**

5. *Navigational command to the destination device for the predetermined channel*

- Amazon's proposed construction: Use of a channel button or the like to navigate to the preselected television channel.
- VIS's proposed construction: A command to the destination device to select the communication pathway.

In large part, the proper construction of this term is inextricably linked to the term "predetermined channel," which is discussed above. This is also a claim term which the *Samsung* court construed, and VIS's proposed construction is based on an exact recital of the *Samsung* court's construction. By contrast, Amazon relies on its proposal for a "predetermined channel" to create a similarly narrow construction of this term. As discussed above, the Court rejected Amazon's proposed construction of "predetermined channel" in favor of the well-reasoned construction of the *Samsung* court. The same logic applies here.

Amazon relies on the specifications and prosecution history to assert its proposed limitation. In the prosecution history, the patent examiner was concerned with distinguishing prior art (Michael) which "[taught] content data targeting a set-top box to be directed to a

determined address of set-top box/STB that is associated with a television." Amazon Op. Br., Ex. F. at 10. In response, the applicant added the requirement of a "navigational command to the destination device for the predetermined channel" and argued that "Michael . . . clearly fails to disclose or suggest . . . for the destination device to display the multimedia content item in conjunction with a navigational command to the destination device for the predetermined channel." *Id.*, Ex. K at 28. Based on this response, Amazon argues that "'navigational command' cannot mean merely selecting an input port for the destination device—which Michael disclosed." Amazon Op. Br. at 14. This argument does not survive close scrutiny.

First and foremost, Michael was not cited against claim 1, but rather against claims 3 and 4—claims that were never amended. Amazon Op. Br., Ex. F at 6–10. Thus, it is not clear that Michael was the decisive factor in either the rejection or the amendment discussed by the applicant and the examiner. Indeed, Amazon's amendment to claim 1 distinguished the '398 patent application over a separate patent (Cohen). Accordingly, the prosecution exchange over Michael does not provide the forceful impact that Amazon ascribes to it. Moreover, it bears repeating that the standard for prosecution disavowals is high. *Poly-Am.*, 839 F. 3d at 1136. In this instance, VIS made no explicit disavowal of a position, but rather amended its unrelated claims in response to a rejection and made a separate argument regarding why its claims were not taught by the prior art. Accordingly, Amazon's appeal to the prosecution history is rejected.

This leaves Amazon with its reliance on the specifications. In particular, it clings to a passage that reads:

> Finally, the television is directed 1708 to display the converted content on a predetermined channel. This predetermined channel may, for example, be a tunable channel that is otherwise unused for other forms of content. To view video content in this fashion, *the user merely uses a channel button or the like to navigate to the appropriate channel*, and then the converted content is shown on the display screen of the television.

'398 patent at 26:41-48 (emphasis added by Amazon). As was the case with the term "predetermined channel," this passage is more properly read as a non-exclusive embodiment rather than a limitation. Indeed, as VIS argues, including Amazon's proposed instruction would commit the "cardinal sin of claim construction" by reading specifications as limitations on the claims. *See* VIS Resp. Br. at 17 (citing *Phillips*, 415 F. 3d at 1320; *Hill-Rom*, 755 F.3d at 1371).

As the *Samsung* court noted, the construction of "predetermined channel" largely resolves the issue here. Recall that the *Samsung* court found "predetermined channel" to mean "communication pathway," which meant the term included HDMI inputs and similar input sources. After establishing that construction, the court construed the term "navigational" as "selection" or "selecting." *Samsung*, 976 F. Supp. 2d at 829. With that established, the rest of the construction fell into line, as the ultimate construction included "both the command and the purpose of such command (i.e. navigating)." *Id.* The same logic applies here, and the Court therefore approves and adopts the construction of the *Samsung* court.

- Final Construction: **"a command to the destination device to select the communication pathway."**

B. <u>The '844 Patent</u>

The '844 patent is titled "System and Method for Providing Locally Applicable Internet Content with Secure Action Requests and Item Condition Alerts." There are three ideas covered by the patent. One idea is the local caching and optimized delivery of locally applicable internet content to users. In other words, the patent claims a system whereby local internet content is stored in a relevant geographic area to speed its delivery to users. The second claimed idea involves providing secure payment using wireless communications to a local wireless HUB, which then communicates with a remote server. This idea uses a unique identifier associated

with the user's mobile device to verify the user's identity. Once the identity has been verified by the wireless HUB, the HUB transmits the information to a remote merchant server to complete a purchase. With the third idea, the "invention accommodates the delivery of diaper status updates through a wireless connection." '844 patent 3:1-3.[5] Put differently, a sensor in a diaper reads the wetness and other qualities of the diaper and sends a corresponding update to alert the appropriate caregiver that the diaper needs changing.

In conjunction with the diaper monitoring system, the patent describes a diaper ordering system that combines the second and third of the ideas embodied by the patent. The system is shown in a figure, which is reproduced below.

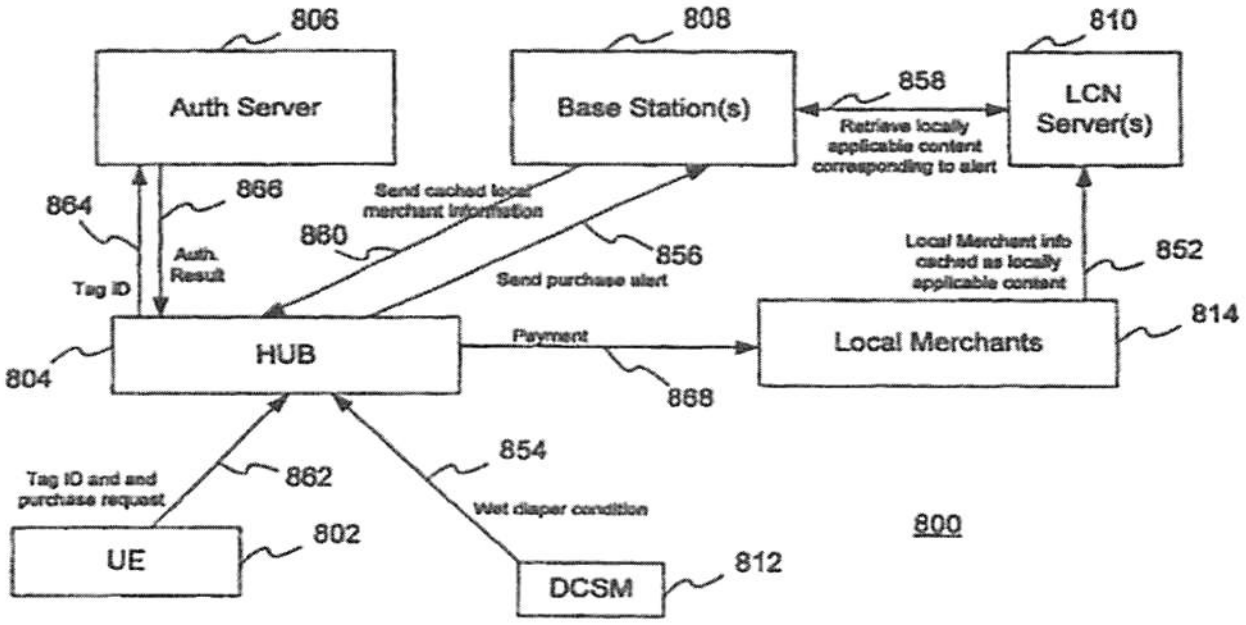

FIG. 8

In this system, the diaper sensor (DSCM) conveys the diaper condition to the local wireless HUB. The HUB is configured to compare diaper usage against the household inventory. If it

[5] With one exception, the specification uses diapers as its example throughout the description of the invention, but the claim language is not necessarily limited to diapers. The one non-diaper example in the specification refers to the possibility of using the invention for a home security system. '844 patent 9:62-65.

determines that the user is running low on diapers, it alerts the user through the user equipment (UE); the user may then elect to purchase diapers from a local merchant using her mobile device, which is subsequently connected with the secure payment system.

The five disputed terms in the '844 patent revolve around three independent claims: claims 28, 35, and 52, and a variety of claims dependent from these independent claims. Claim 28 is reproduced in full below:

> 28. A wireless device configured to facilitate electronic communication of information, the wireless device comprising:
>
> a processor;
>
> a wireless radio chip containing information of a **unique identifier** corresponding to the wireless device;
>
> a memory configured to store program code that includes instructions executable by said processor, said instructions comprising:
>
> instructions for transmitting, through a wireless transmission channel, an **item status signal** to provide information regarding an **updated condition of a merchandise**,
>
> wherein the wireless transmission channel is established in a local wireless communication network in response to an indication of the updated condition and the wireless transmission channel is established for transmission of the **item status signal** by the wireless device; and
>
> wherein the **unique identifier** corresponding to the wireless device is recognized during a processing of a purchase request for **the merchandise** regarding the updated condition based on a successful transmission of the item status signal;
>
> wherein the purchase request for the merchandise is identified based on recognition of the **unique identifier**; wherein information of a user account is **communicated through a communication channel to accommodate the processing of the purchase request**;
>
> wherein the user account is associated with the wireless device; and wherein the wireless transmission channel is separate from the communication channel, the information of the user account comprising the information for the processing the purchase request; and

wherein the wireless device is designated to transmit the item status signal.

'844 patent, claim 28.

Before moving to the disputed terms, there is one aspect of the prosecution history of the '844 patent that merits attention. Specifically, Amazon points out that a few of the later-amended claims describing the diaper ordering system are in direct tension with the specification. As discussed below, this tension causes meaningful problems in attempting to arrive at a logical construction of certain claim terms.

The original patent application contained only two claims directed to the system for locally caching internet content. *See* Amazon Op. Br., Ex. M. Those two claims were rejected and later cancelled, but Applicant submitted an amended application which contained 63 additional claims: 31 directed to locally caching internet and 32 directed to the new idea of sensing an item status and sending a status indicator. *Id.*, Ex. P at 2–13. None of these claims related to purchasing items. Only in April 2016[6] were the claims amended from reciting "processing of the information regarding the updated condition after a successful transmission of the item status signal" to "processing of *a purchase request for the merchandise* regarding the updated condition based on a successful transmission of the item status signal." *Id.*, Ex. Q at 9 (emphasis on modified language). Thus, the claims "purport to cover a process in which products are *automatically* ordered based on a detected updated condition of some merchandise." *Id.* at 18 (emphasis added). This automatic purchasing is not described at any point in the specification.

Amazon argues that these claims "conflate two distinct devices described in the specification: (1) the user's mobile device (UE) that contains an associated authentication tag

[6] Amazon points out that this amendment was more than a year after it had released its Amazon Dash Button, which allegedly infringes the '844 patent. *See* Amazon Op. Br. at 18.

and (2) the diaper sensor [DSCM], which is a wireless sensor used to monitor diapers." *Id.* This argument is supported by Figure 8, which clearly contemplates a mobile device (802) that communicates with a separate sensor (812) through the local wireless HUB (804). Amazon points out that it would be odd indeed to have a dual-purpose device that would require the user to place a cell phone or similar mobile device inside a baby's diaper for monitoring purposes. More importantly, because there there is no description of this combined device in the specifications, it is nearly impossible to tell how it would work. This provides some complications for the purposes of claim construction. With that caveat, the discussion now turns to the disputed terms.

1. *Item Status Signal*

- Amazon's proposed construction: Information regarding the status of an item, for example that a diaper is wet.
- VIS's proposed construction: No construction required. The plain and ordinary meaning is sufficiently clear and understandable.

Amazon's proposed construction raises two issues: (1) the addition of the "for example" clause; and (2) a revised construction of the core term "item status signal." The "for example" clause is superfluous, and Amazon cannot provide any support for this requested limitation. Indeed, it appears to be an attempt to graft specification terms onto the claims themselves. Thus, this proposed clause is summarily rejected and will not be discussed in any detail.

As for the core construction issue, it is difficult to decipher VIS's position. In its opening brief, VIS writes: "'Item status signal' is used in the claims to refer to the signal transmitted through a wireless transmission channel to provide information regarding an updated condition of merchandise. The information may be anything related to the merchandise and should not be

limited as suggested by Defendant." VIS Op. Br. at 16. It then goes on to argue that Amazon's proposed construction "contribute[s] nothing but meaningless verbiage to the definition of the claimed invention." *Id.* at 17 (quoting *Harris Corp. v. Ixys Corp.*, 114 F.3d 1149, 1152 (Fed. Cir. 1997)). So, on the one hand, VIS argues that the additional language is superfluous, but on the other hand, it argues that Amazon misreads the claims.

Amazon proposes an explanation for this confusion. It argues:

> VIS reads "item status" out of the term to read the claim on Amazon's Dash Button. It asserts that "item status signal" is the signal sent when the "customer presses the Dash Button's Button." VIS knows that the Dash Button does not transmit a signal relating to item status (e.g., the quantity or condition of an item), but rather transmits only an identifier of the button itself . . .

Amazon Resp. at 14 (quoting VIS's '844 patent infringement contentions at 23). Therefore, Amazon argues that its construction is necessary in order to preclude this argument, which is grounded neither in the specification nor the claims.

All of the independent claims asserted against Amazon provide that the "item status signal" is used "to provide information regarding an updated condition of a merchandise." '844 patent, claims 28, 35, 52. Thus, the claims all refer to "the item status" as the information that is conveyed about the item (*e.g.*, the diaper) that is being monitored by the wireless sensor. This is confirmed by the specification, which describes the following types of information that might be conveyed by the "diaper sensing module": (1) the weight of the diaper; (2) electric conduction of urine; (3) chemical properties of urine; (4) feces; (5) "any other elements, features, characteristics, and reflections of the unwanted on babies' diapers." *Id.* at 10:8-25. These embodiments all describe some change in the status of the diaper. Therefore, in some sense, VIS seems correct in its assertion that the term is self-defining in that the "item status signal" reflects the status of the monitored item.

But this same logic runs contrary to VIS's statement that "[t]he information may be anything related to the merchandise." VIS Op. Br. at 16. Nowhere in the specification or the claims is the "item status signal" used in the context of anything other than a change in the condition of a merchandise. For example, the "signal" is not used as a proxy for a purchase request or as a user identification tool. Instead, the "signal" appears simply to be the *vehicle* through which the information regarding the change in the condition of the merchandise is conveyed, and it is consistently used in that context.

Therefore, in light of VIS's aggressive litigation position, the Court largely adopts Amazon's logical construction of the term. Here, VIS has revealed its intention to argue for an inappropriately broad meaning of the term. Therefore, a less malleable "plain and ordinary" construction is warranted.

- Final construction: **"a signal conveying information regarding the status of an item."**

2. *An Updated Condition of a Merchandise*

- Amazon's proposed construction: a detected change in the condition of an item, for example that a diaper is wet.
- VIS's proposed construction: No construction required. The plain and ordinary meaning is sufficiently clear and understandable.

As noted above, the term "updated condition of a merchandise" is used in conjunction with the "item status signal" in each of the independent claims. As previously set forth, the best way to reconcile these terms is to treat the "item status signal" as the *vehicle* through which the "updated condition of a merchandise" is communicated. Thus, the meanings of the two terms are connected. Accordingly, the logical construction of this term both draws upon and reaffirms the construction of "item status signal," discussed above.

In arguing for its broader, plain-meaning construction of "an updated condition of a merchandise," VIS continues to assert that the "updated condition" may be *any* information related to the merchandise. This interpretation relies almost exclusively on the doctrine of claim differentiation, which provides that each claim in a patent is presumed to be different in scope and meaning from all other claims. *See Phillips*, 415 F.3d at 1314–15. In particular, VIS stresses the difference between independent claim 35 and dependent claim 37. Claim 35 recites "the wireless signal transmitter is designated to transmit an item status signal to provide information regarding an updated condition of a merchandise." By contrast, claim 37 (dependent from claim 35) adds the feature of a "wireless sensor configured to **detect** the updated condition of the merchandise." '844 patent, claim 37 (emphasis added). This difference in claim language allows VIS to argue that the "information could be a 'detected change,' but there is no basis to limit the plain and ordinary meaning of the claims to a 'detected change.'" VIS Op. Br. at 18. For the reasons set forth below, this argument is flatly rejected.

First, the doctrine of claim differentiation does not apply here because claim 37 can be differentiated from claim 35; it contains a wireless (as opposed to a wired) sensor to detect the change in the condition of the merchandise. *See Ameranth*, 842 F.3d at 1238 (declining "to apply the doctrine of claim differentiation where 'the claims are not otherwise identical in scope'") (quoting *Indacon, Inc. v. Facebook, Inc.*, 824 F. 3d 1352, 1358 (Fed. Cir. 2016)). Thus, there is a separate aspect of the two claims that distinguishes them, and the Court is not required to read the term "detect" out of the independent claim on the basis of differentiation alone.

Next, VIS's interpretation runs contrary to the overwhelming thrust of the patent, which requires some change or event to begin the process. As set forth in the specification, the basic purpose of the invention is to "deliver[] alerts to individuals such as caregivers tasked with

managing a child in diapers." '844 patent at 2:2-5. The patent therefore presumes some event that prompts the user alert. It does not contemplate a continuous stream of information providing real-time updates to the user. Figure 7 confirms this.

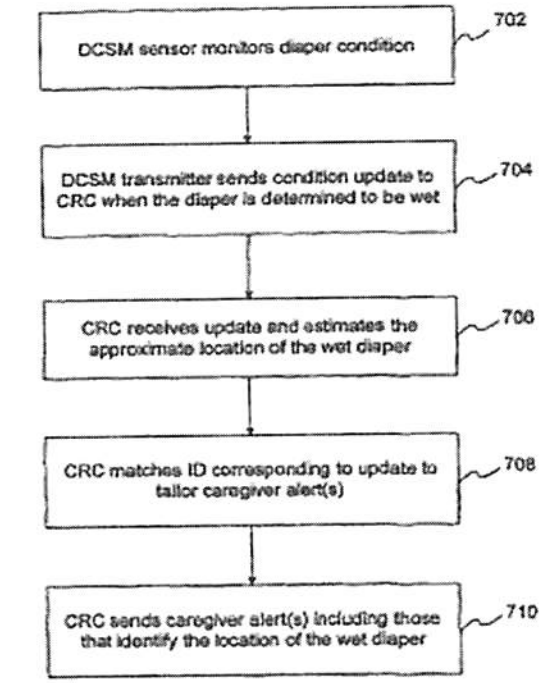

FIG. 7

The key feature here is the second step (704) which explains that the diaper monitor transmitter "sends condition update to the CRC *when the diaper is determined to be wet.*" Here, Amazon's reading of the claims is supported: the wetting of the diaper triggers the condition update.

Amazon's position is further supported by the language of the specification. It explains that:

> [a] sensor detects the condition of the diaper and accommodates a status indication when the current indication requires and updated [sic]. By way of example, the condition monitored may be wetness . . . The status information is preferably transmitted using a wireless connection to a device that delivers a corresponding alert to at least one caregiver.

Id. at 3:1-11. Given the grammatical confusion of the first clause, it is difficult to tell exactly what the patentee intended to convey. Nonetheless, it appears to contemplate a "status indication" whenever an update is required. The update is presumably required whenever the caregiver needs to be alerted. In this example, the caregiver should be alerted when the diaper becomes wet or needs changing. Any contrary interpretation would require a constant flow of information, thus obviating the need for an "alert." Accordingly, the change in condition (wetness) triggers both the signal and, consequently, the alert.

Finally, this construction gives effect to the word "updated," which VIS appears to overlook in arguing that the updated condition can be "anything related" to the merchandise. An "updated condition" could theoretically mean a number of things. One example would be a periodic update based on a set period of time—perhaps every hour or every 15 minutes. But this embodiment does not find any support in the specification. In the specification, the updated condition is universally referred to in the context of the diaper's status, and in particular, the need to change the diaper because it has been soiled. Thus, VIS will not be permitted to advance its "anything related" theory to the jury.[7]

- Final construction: **"a detected change in the condition of an item."**

3. *The Merchandise*

- Amazon's proposed construction: The specific item for which a change in condition is detected.
- VIS's proposed construction: No construction required. The plain and ordinary meaning is sufficiently clear and understandable.

[7] As discussed in relation to previous terms, the "for example" clause in Amazon's construction is superfluous and the Court declines to include it here.

With regard to "the merchandise," Amazon relies on a contextual antecedent basis argument to support its proposed construction. Specifically, it argues that the independent claims provide that the "antecedent basis for 'the merchandise' in each asserted independent claim is 'an item status signal to provide information regarding an updated condition of a merchandise.'" Amazon Op. Br. at 22. Thus, in order to construe this term consistently throughout the claims, Amazon asserts that it must refer to the "specific item for which a change in condition is detected." *Id.*

VIS attacks this interpretation of the "antecedent basis" theory but does not otherwise offer a reason to depart from Amazon's proposed construction. In particular, VIS points out that the actual antecedent in each of the independent claims is "a merchandise" rather than "the merchandise." Accordingly, it suggests that the antecedent basis should not apply because the terms are not exactly the same. This argument might make sense if there was a good alternative explanation for "the merchandise," but the specifications do not support one. Accordingly, the Court concludes that Amazon's construction is appropriate.

This point is made clear by asking the question: what does "the merchandise" refer to if it does not refer to the item that is being monitored? The only possible answer would be some extraneous item that is wholly unrelated to the sensors and item status signal upon which the patent is focused. The much better answer is the one suggested by the claim specifications: the merchandise is the diaper. In all of the specification's examples, and in all of the figures, the diaper is the item being monitored; it is also the item for which status signals or updates are sent to the user. Further, it appears to be the item that is being purchased through the WHUB. *See* '844 patent fig. 8. As discussed above, the essential invention of this aspect of the patent is to detect when diapers need changing and allow users to easily order more over the internet when

supplies are low. Thus, any alternative argument would run contrary to both the claims and the specifications.

In sum, although the antecedent basis argument is minimally weakened due to a change in article (from "a" to "the"), the logic of the argument remains strong. The claims direct their focus to a single item (or merchandise), and construing the claims any other way would broaden them beyond the logical bounds of the specification.

- Final construction: **"The specific item for which a change in condition is detected."**

4. *Unique Identifier*

- Amazon's proposed construction: An identifier of a specific wireless device that is associated with the status information for a specific item, for example a particular diaper.
- VIS's proposed construction: No construction required. The plain and ordinary meaning is sufficiently clear and understandable.

In a case filled with difficult issues of claim construction, the term "unique identifier" is uniquely challenging, as it pinpoints the indefiniteness issues highlighted in the introduction to the '844 patent. In an attempt to avoid these problems, VIS offers arguments without substance. It states that "[t]he unique identifier is exactly what the ordinary meaning of the term indicates — a unique identifier." VIS Op. Br. at 21. This does not help the court resolve the issue here, and it will not help the jury resolve the issue if it goes to trial.[8]

Amazon's position helps to frame the issue, but it does not do much to resolve it. Amazon argues that the specification describes two types of unique identifiers. The first is associated with a device for transmitting an item status signal "that functions to identify a

[8] In its opening brief, VIS also replaces the word "device" in Amazon's proposed construction with the word "sensor" and therefore argues fervently against a construction that Amazon did not propose. VIS Op. Br. at 20.

particular item with an updated condition." Amazon Resp. at 19. In plain English, this is the diaper sensor. In support, Amazon cites the specification, which reads "the diaper condition sensing module includes a sensor and a transmitter . . . The signal is sent by the transmitter to inform the CRC [central receiver/controller] that the diaper is wet . . . **Each sensor preferably has a unique ID.**" '844 patent 10:8-33 (emphasis added). Among other things, placing the unique identifier on each individual diaper allows caregivers to use the invention for multiple children at one time. Specifically,

> [t]he CRC is configured to distinguish children in need of new diapers from those that are not and respectively sends messages to appropriate caregivers. To carry out this functionality, the CRC 620 is equipped with a **database that associates the unique identifier corresponding to each diaper condition sensing module** 610a-g to at least one contact party.

Id. at 11:9-12 (emphasis added). This same functionality allows the CRC to determine the location of each individual diaper. *Id.* at 11:17-23. For clarity, Figure 6 is reproduced below.

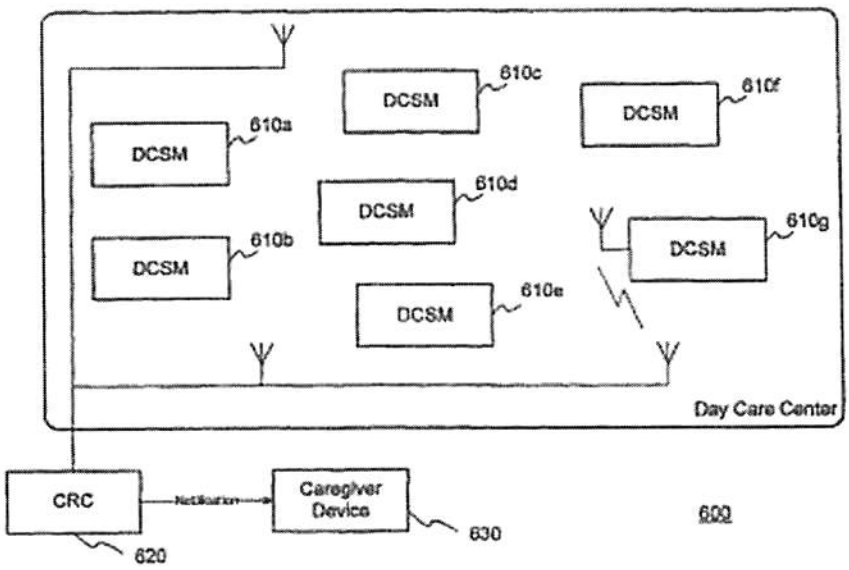

FIG. 6

The second reference to a "unique identifier" is with respect to a mobile device that helps authenticate purchase requests. In this embodiment, the wireless device "is equipped with a tag

that provides a **unique identifier** that can be wirelessly communicated to the WHUB." *Id.* at 7:66–8:2 (emphasis added). The specification goes on to explain that "once the device is authenticated through the unique identifier, a second secure communication channel with more capabilities is established between the handset and WHUB." *Id.* at 8:21-24 (discussing Fig. 3). The specification also clarifies that this unique identifier is separate and apart from the unique identifier associated with the individual diaper sensors. *See id.* at 12:44-57. One relates to payment while the other relates to the individual location and status of a diaper. *Id.* Thus, the specification confuses the issue of the unique identifier by providing two separate and unrelated embodiments of the same term.

This brings the appropriate inquiry back to the claims, however, the claims provide no clarity. By way of example, independent claim 35 recites a system "wherein the wireless signal transmitter is designated to transmit an item status signal . . ." *Id.* at claim 35. So far so good. But claim 35 goes on to state that the same system "is configured to recognize a purchase request for the merchandise based on recognition of the unique identifier corresponding to the wireless signal transmitter." *Id.* This makes no sense in the context of the specification discussed above. The specification recites two separate devices that each requires a unique identifier, while the claims appear to contemplate a single device that both sends the item status signal and initiates a purchase of the merchandise. The claims themselves give no hint at how this unified device functions.[9]

Amazon argues that "unless the court clarifies now that the unique identifier must be part of the device for transmitting item status signals, which is what the claim language requires, VIS will improperly point to different unique identifiers in the specification as allegedly providing

[9] At oral argument, counsel for VIS conceded that "you can't have the cell phone in the baby's diaper," meaning there is no single embodiment that contains two "unique identifiers." *Markman* Hearing Tr. at 52-54.

§ 112 support." Amazon Resp. at 20. But this argument ignores the fact that the claims also support the notion that the unique identifier is used to "recognize a purchase request."

Accordingly, the Court concludes that it cannot logically construe this term consistent with the claims, the specification, and the prosecution history. Therefore, the "plain and ordinary meaning" of the term applies, as there is no alternative that is supported by the legal principles of claim construction.

- Final construction: **"unique identifier."**

5. *Communication through a communication channel to accommodate the processing of the purchase request / Communicate the information for the processing of the purchase request through a communication channel / Communicating information for a processing of the purchase request through a communication channel to accommodate a completion of the processing of the purchasing request*

- Amazon's proposed construction: Transmitting payment information from the wireless device to process the purchase request.
- VIS's proposed construction: No construction required. The plain and ordinary meaning is sufficiently clear and understandable.

This term implicates the same structural issue as the rest of the '844 patent. Namely, that the specification contemplates two separate devices to (1) monitor the merchandise and send status updates and (2) initiate the purchase requests; but the claims envision a single device performing both of these functions. To illustrate this problem, it is useful to begin with Figure 8.

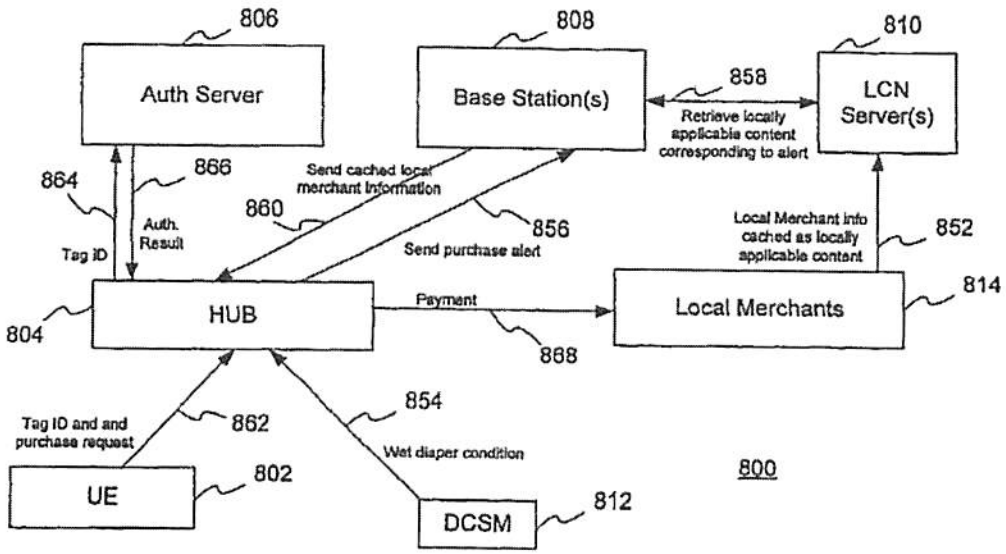

FIG. 8

Figure 8 makes sense. It contemplates a diaper sensor (DSCM) (812) that sends information about the wet diaper condition to a HUB (804). Separately, the User Equipment (UE) (802) communicates its Tag ID and purchase request (862) to the HUB when the user decides it is time to buy more diapers. The HUB then conveys the relevant payment information to the local merchants (868).

Now, contrast Figure 8 with claim 28, which recites

> a wireless device configured to facilitate electronic communication of information . . .
>
> wherein the purchase request for the merchandise is identified based on recognition of the unique identifier; wherein information of a user account is **communicated through a communication channel to accommodate the processing of the purchase request**;
>
> wherein the user account is associated with the wireless device; and wherein the wireless transmission channel is separate from the communication channel, the information of the user account comprising the information for the processing the purchase request; and
>
> wherein the wireless device is designated to transmit the item status signal.

'844 patent, claim 28 (emphasis added).

According to the language of this claim, the user account is "communicated through a communication channel," but the user account is also "associated with the wireless device." At the same time, the "wireless transmission channel is separate from the communication channel." Thus, on the one hand, the wireless device contains the user account, which facilitates the payment. On the other hand, the wireless device is also "designated to transmit the item status signal." Turning back to Figure 8, it becomes apparent that this embodiment is not shown.

Nor is it shown in Figure 4, which illustrates both a "communication channel" and a "wireless transmission channel" between the cellular phone and the HUB.

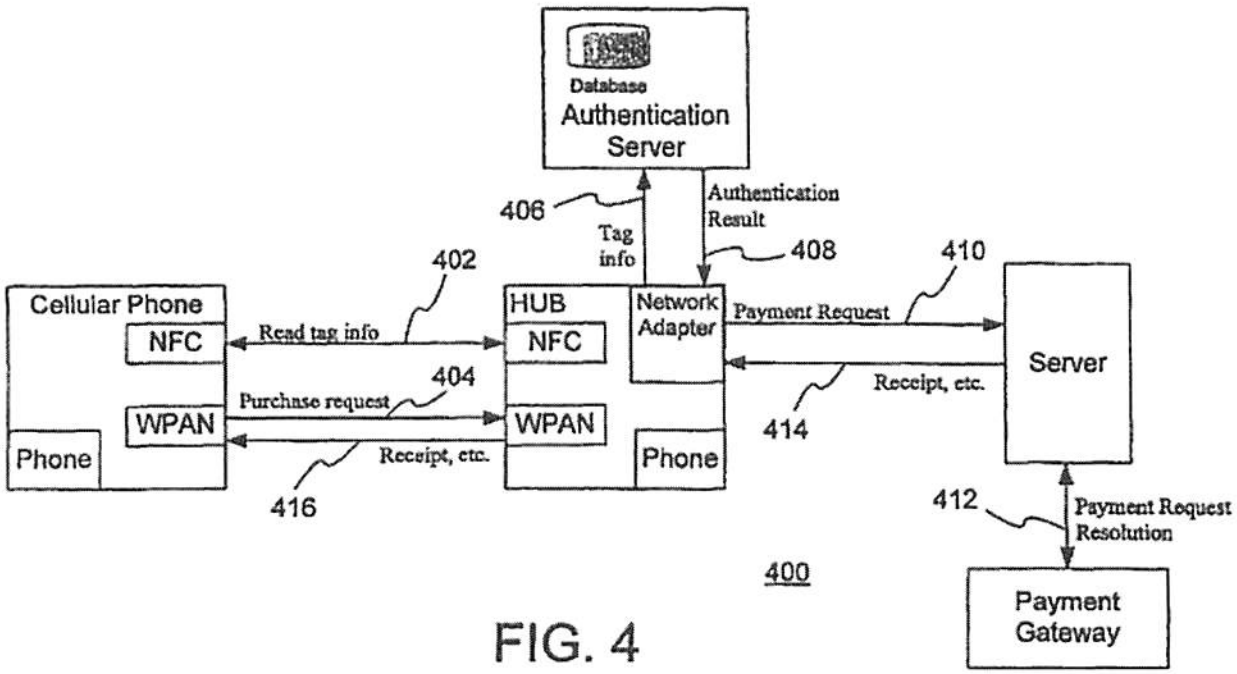

FIG. 4

'844 patent fig. 4. There is nothing in this figure that gives a person skilled in the art the appropriate tools to see how the wireless device simultaneously conveys the "item status signal" as well as the payment information.

Notwithstanding these inconsistencies, this term is still capable of logical construction. In this respect, there are two issues to address: (1) may the relevant communication contain more

than "payment information?"; and (2) must the claimed "communication" come from the wireless device? The Court answers both of these questions in the affirmative.

With respect to the first question, Amazon provides weak support for its assertion that only the payment information—and not the purchase request—is conveyed through the claimed communication channel. Amazon's primary support comes from the summary of the invention, which reads:

> A wireless HUB receives and recognizes a unique identifier corresponding to a user equipment through a short range wireless connection. This identifier may, for example, be based upon Near Field Communication or Radio Frequency ID technology.
>
> **Once this recognition is made, the wireless HUB establishes a secure communication channel with the user equipment based upon the recognition of the unique identifier. The secure communication channel is separate from the short range wireless connection used to receive the unique identifier**, and preferably provides greater bandwidth and range to accommodate additional, more detailed communications related to the action request.

'844 patent 2:50-61 (emphasis added). In this passage, Amazon's construction is conceivable; the wireless connection transmits the unique identifier *before* the secure communication channel separately conveys the payment information. Thus, the payment information is only delivered once the connection has been established. The problem with this construction is that it associates the purchase request with the unique identifier rather than the payment information.

The specification later reveals that the authentication process occurs separate and apart from the payment request. In describing Figure 4, the patent recites:

> The process initiates with an authentication process that accommodates recognition and identification of the handset by the wireless WHUB via the NFC tag.
>
> The communication through the separate secure communication channel (e.g., WPAN) is then established. The WPAN functionality is used to communicate between the handset and the WHUB, so that the content related to a requested

> action may be securely exchanged. **In this example, the requested action is a purchase request.**
>
> It should be noted that the action may or may not immediately follow authentication. For example, the cellular phone may be configured to include browsing capability, which allows that interface of the cellular phone to be used to review items prior to making a purchase request.

Id. at 8:60–9:7 (emphasis added). Here, the purchase request is exchanged through the secure communication channel that is established *after* the authentication has been completed. Indeed, the user can browse different products through that connection before even selecting the product that she wishes to purchase. In short, these excerpts make clear that at least purchase requests—along with the "payment information" necessary to affect purchase requests—can be delivered through the secure communication channel.

That conclusion leads to the next question: must the mobile device send the purchase requests and the payment information? Again, it appears the answer is "yes," although this answer touches on the dual-device conundrum that pervades the '844 patent.

In its attack on Amazon's proposed construction, VIS offers a distorted version of Figure 8 in which the "communication channel" in the claims is cast as the connection between the HUB (or WHUB) and the merchant (868). There is some language in the specification to support this construction. For example, in one embodiment, the WHUB "is configured to facilitate secure receipt and performance of an action such as a purchase request and corresponding payment request, includes the CRC functionality that allows a response to diaper condition update as provided by the DSCM 712." *Id.* 12:7-12. Moreover, the specification contains other examples of payment information, such as the user's address information being transmitted from the WHUB to the merchant. *Id.* at 12:62-63. Finally, the specification provides

that the "purchase request may be made by directly interfacing with the WHUB or by using the UE 802 in the fashion above. The latter option is shown [in Figure 8]." *Id.* at 12:48-52.

This final quotation illustrates the flaw in VIS's argument. The specification does not shed any light on the issue of how a human user "interfaces" with the WHUB without using some sort of equipment. The WHUB is not defined in the patent specification, but it appears to be a device that both receives and sends digital communications and stores certain information about the user and local internet usage. Based on this understanding, a human user would need some sort of digital tool to interface with this device. Thus, notwithstanding the statement that the "purchase request may be made by directly interfacing with the WHUB," that instruction does not appear to be grounded in reality. As such, the user must interface with the WHUB through the user equipment or the DSCM, as shown in Figure 8.

It should be uncontroversial that the UE conveys the "tag ID and purchase request" while the DSCM conveys the item status update, such as the "wet diaper condition." Indeed, that is the language set forth on the face of Figure 8—verbatim. Moreover, that understanding is confirmed in the specifications. For example, the summary explains that "the wireless HUB establishes a secure communication channel with the user equipment." *Id.* at 2:55-57. Thus, accepting (1) the fact that payment information necessarily contains information from the user (e.g., delivery address, credit card information…etc.), and (2) the fact that human beings cannot communicate with the HUB absent some robotic implants, then it necessarily follows that the payment information and request must come from the user, and through the user equipment.

- Final construction: **"Transmitting information from the wireless device to process the purchase request."**

C. The '140 Patent

In the '140 patent, "[a] method and system are disclosed which permits a buyer requiring adequately secure encryption and decryption techniques for purchasing products from a merchant server that does not provide such techniques." '140 patent 2:59-63. In other words, it provides for a secure payment server that allows users to purchase goods on the internet. The patent is a re-issue from U.S. Patent No. 6,618,705. There are only four claims remaining in the patent: independent claims 17 and 19, and dependent claims 18 and 20. The functionality of the patent is best illustrated by Figure 2, which is reproduced below.

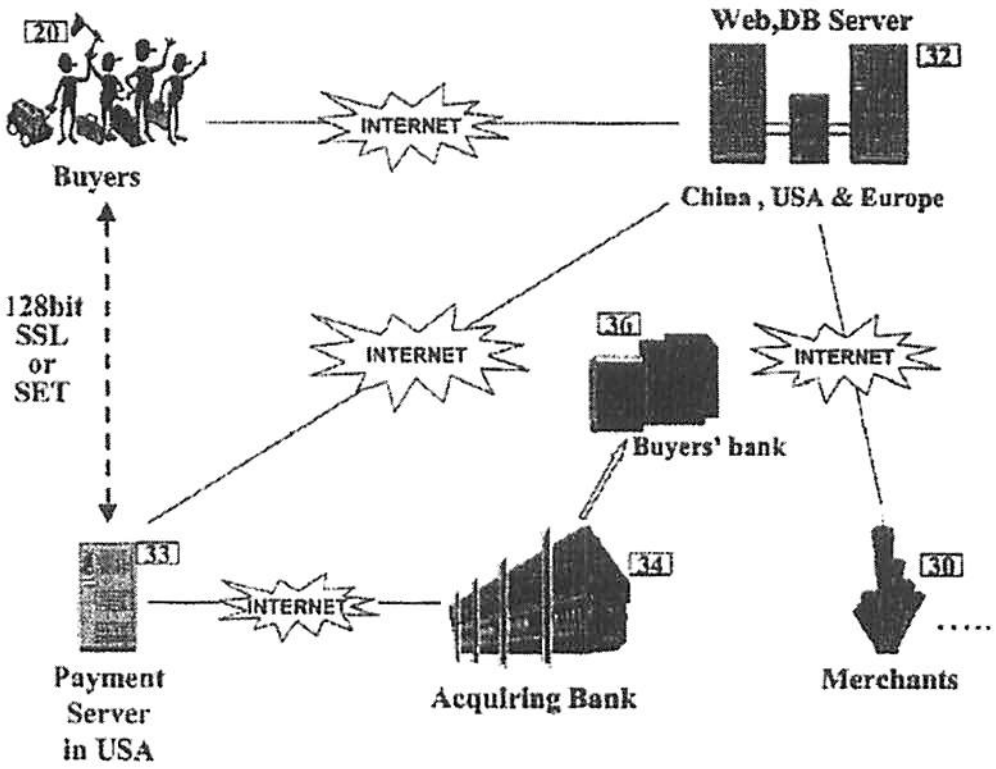

FIG. 2

In this system, the user sends a message that she wants to buy an item from a merchant website (e.g., eBay). Once the purchase request has been made, the buyer is "shifted" from the merchant server to the secure payment server in the United States. After the buyer is shifted to the secure payment server, the server performs the standard functions which, according to the patent, were performed in the prior art by a merchant server (described in Figure 1).

Specifically, the payment server receives the credit card information over an encrypted connection which transmits the payment information to the acquiring bank. The acquiring bank then decrypts the information and sends it to the buyer's bank, which processes the payment. If the buyer's bank is able to process the credit card payment, then the transaction is confirmed through the merchant server. Through this process, the patent provides a method for "the real-time purchase of a product using the internet." *Id.* at 4:15-16.

In relevant part, representative claim 17 reads:

> An online method for a payment server to support online buying over the Internet, the online method comprising:
>
> receiving, at the payment server, credit card payment information transmitted from a buyer for payment of one or more items identified for purchase from a website listing the items, wherein the credit card payment information is received after **online communication of the buyer has been switched from the website listing the items to a website supported by the payment server**, wherein the switching of the online communication of the buyer is after an indication from the buyer to buy the one or more of the items . . .

'140 patent, claim 17 (emphasis added). There is only one term that the parties ask the Court to construe.

1. *Online Communication of the Buyer has been Switched from the Website Listing the items to a Website Supported by the Payment Server*

- Amazon's proposed construction: the online connection of the buyer's computer to the server listing items is automatically, without a request from the buyer's computer, shifted to the payment server.
- VIS's proposed construction: No construction required. The plain and ordinary meaning is sufficiently clear and understandable.

The key issue in this disputed term is: what causes the switching to occur? Amazon relies on Applicant's disclaimers in the prosecution history to advance its position that the

switching occurs automatically without a command from the buyer's computer. VIS disputes this reading of the prosecution and argues that no additional construction is necessary. Due to the lack of detail concerning the term "switched," neither of these arguments is satisfactory. Nonetheless, because the patent does not make sense under Amazon's construction, VIS has the better argument on this issue.

Amazon's prosecution-disclaimer argument centers on U.S. Patent No. 5,822,737 ("Ogram") and Applicant's efforts to distinguish it. Ogram claims an automated payment system for purchases over the Internet. In this system, when a user makes a purchase, the customer's computer then links to a separate payment processing computer. Am. Op. Br., Ex. S. When applicant first filed this application, the examiner rejected all claims as obvious under Ogram. In response, Applicant asserted:

> [W]ith the Ogram system, the link to the payment processing computer 23 is made by the customer computer . . . [T]hus there is no "*switching of the online communication of the buyer . . . after an indication from the buyer to buy the one or more of the items*," as claimed by Applicant.

Id., Ex. T at 14 (emphasis in original). Amazon points to five other occasions in which applicant repeated this, or materially similar language, to the examiner. The examiner apparently accepted this argument, because the patent was issued. Thus, Amazon asserts that the issued patent must have included this limitation.

The problem with this position is that it leaves the meaning of the "switching" even more unclear than before. If the Court were to accept Amazon's argument, the source of the switching would be completely obscured. Presumably, the Web, DB Server could automatically switch the communication channel to the encrypted server. Conceivably, the Web, DB Server might give the payment server the buyer's information so that the payment server could contact the buyer directly. But that initial communication would be unencrypted and would therefore be

susceptible to hacking by other computers, which could then impersonate the payment server and request a connection with the buyer's computer. Such a result would thwart the entire purpose of the invention. Moreover, this construction is not supported in any way by either the claims or the specifications.

Indeed, the specifications appear to support VIS's construction. In describing Figure 2, the specification reads:

> When a product displayed on a particular merchant website on the server **32** is determined by the buyer to be purchased and *the buyer indicates a desire to submit credit card information, the buyer is shifted to the payment server* **33** for direct communication therewith for entry of credit card information onto the secure transaction system. The payment server **33** then transmits the encrypted information to the acquiring bank **34** that decrypts the information, as necessary, and forwards the information through established financial circuitry to the buyer's bank **36** . . .

'140 patent 4:33-43 (emphasis added). Hence, in this embodiment, the "shift" to the secure server is prompted by the buyer's indication of her desire to make the purchase. Indeed, the whole point of the patent is to switch the communication channel after the buyer decides to make a purchase. Thus, it would be impossible to complete this task without *some* indication from the buyer's computer; it cannot happen automatically.

In sum, the Court is faced with two unsatisfactory answers. Because accepting Amazon's position would render the patent logically impotent, the Court concludes that the better answer is to presume the validity of the patent and construe it according to its plain meaning.

- Final construction: "**Online Communication of the Buyer has been Switched from the Website Listing the items to a Website Supported by the Payment Server.**"

IV. CONCLUSION

For the reasons set forth above, the Court hereby **ISSUES** this Memorandum Opinion and Order as the construction of the disputed claim terms in the '392 patent, the '844 patent, and the '140 patent.

It is **SO ORDERED**.

Liam O'Grady
United States District Judge

August 18, 2017
Alexandria, Virginia